

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (**currently amended**) A device for separating at least one compound from a mixture ~~or a body~~ by adsorption with a simulated moving bed, comprising at least:

an enclosure or column comprising one or more adsorbent beds (A_i), two adsorbent beds where present being separated by at least one fluid distribution and extraction plate (P_i), the plate comprising one or more panels allowing distribution, mixing and/or extraction of ~~the~~ fluids, at least one panel comprising a single distribution, mixing and/or extraction chamber (C_i),

a plurality of lines (10, 11, 12, 13, T_i) for extraction or injection of secondary fluids,

a bypass circuit communicating a distribution plate with at least one bypass line ($L_{i,j}$), wherein

the device comprises means (14, $V_{oi,j}$, 20) for communicating said at least one single distribution, mixing and/or extraction chamber (C_i) with at least one bypass line ($L_{i,j}$),

at least one end of a said at least one bypass line communicates with a zone (R_i , R'_i) of an adsorbent bed, said zone being distinct from said distribution chamber (C_i), and another end of said at least one bypass line is connected to said chamber (C_i).

Claim 2 (**currently amended**) A device as claimed in claim 1, characterized in that said ~~communication~~ means for communicating (C_i) with ($L_{i,j}$) ~~comprise~~ comprises at least one valve ($V_{oi,j}$) arranged on at least one bypass line ($L_{i,j}$) and in that ~~the~~ an end of the bypass line that is not connected to the zone of the adsorbent bed is connected to a delivery and/or extraction line (T_i), which line (T_i) is connected to chamber (C_i).

Claim 3 (**currently amended**) A device as claimed in claim 1, characterized in that said ~~communication~~ means for communicating (Ci) with (Li,j) ~~comprise comprises~~ at least one rotary valve (20), said rotary valve being connected to at least one delivery and/or extraction line (Ti) and to at least one bypass line (Li,j), said valve comprising means allowing at least to communicate a delivery and/or extraction line with at least one bypass line.

Claim 4 (**currently amended**) A device as claimed in claim 3, characterized in that said rotary valve (20) is in communication with a plurality of groups of lines, group G₁, group G₂ and group G₃, said valve comprising:

- a stator (110) provided with several means (E, F, R, S) ~~intended~~ for circulation of ~~the a~~ fluid(s) of ~~a~~ group G₁, means (115, 116) allowing passage of at least two fluids F₁, F₂ belonging to group G₃, said means (115, 116) comprising a substantially equal number of passages, means (115) having a flow section S₁ different from a flow section S₂ of means (116),
- a rotor (117) equipped with means (119) for passage of ~~the~~ fluids of ~~a~~ group G₃ and means (120) for communication of either the fluids of group G₁ with group G₃, or of group G₃ with ~~Group~~ group G₃, and
- ~~means (115) and (116) comprising a substantially equal number of passages, said valve comprises~~ means (122) for communicating at least two fluids of group G₃, ~~and flow section S₁ of ports intended for fluid F₁ is different from flow section S₂ of the ports intended for fluid F₂.~~

Claim 5 (**currently amended**) A device as claimed in claim 4, ~~characterized in that~~ wherein the means ~~provided on the valve~~ for passage of fluid F₁ and of fluid F₂ have flow surface ~~areas~~ sections S₁ and S₂ respectively, ~~and in that the~~ wherein S₁/S₂ ratio ~~ranges between is~~ is 2 and to 10.

Claim 6 (**currently amended**) A device as claimed in claim 4, ~~characterized in that~~ said means allowing for communication of ~~the~~ fluids of group G₃ ~~consistS~~ consists of slots (122) provided in a layer of material or liner deposited on the lower face of the rotor.

Claim 7 (**currently amended**) A device as claimed in claim 6, characterized in that a slot (122) has a depth «Pe» and said depth is at least equal to the thickness «e» of the liner.

Claim 8 (**currently amended**) A device as claimed in claim ~~4~~6, wherein said circulation means (E, R, S, F) comprises a plurality of grooves arranged on ~~the resting face or an~~ upper face of the stator and ~~in that~~ slots (122) are provided in the liner.

Claim 9 (**currently amended**) A device as claimed in claim 4, ~~characterized in that~~ wherein circulation means (E, R, S, F) are 4 in number.

Claim 10 (**currently amended**) A device as claimed in claim 1, ~~characterized in that~~ wherein said enclosure comprises a non-perforated central tube over at least part of the length thereof, and in that the panels forming a plate comprise a tangential cutout, zone (Ri, R'i) comprises at least one diverted fluid distribution means (53, 54), and the end of bypass line (Li,j) connected to chamber (Ci) opens into said diverted fluid distribution means (53, 54).

Claim 11 (**currently amended**) A device as claimed in claim 10, ~~characterized in that the~~ wherein a fluid distribution circuit is arranged around said enclosure and comprises a main line (61) divided into a plurality of secondary lines (62, 63, 62a, 62b, ...) so that the fluid(s) reach the panels forming a plate substantially at the same time.

Claim 12 (**currently amended**) A device as claimed in claim ~~1~~ 10, ~~characterized in that~~ wherein the plates form a parallel cutout and in that the fluid distribution ~~device~~ circuit comprises a main line, and ~~the~~ a bypass line is connected to an adsorbent bed by means of a device comprising transfer ports, ~~said device being mounted on the fluid distribution spider.~~

Claim 13 (**currently amended**) A device as claimed in claim 1, ~~characterized in that~~ wherein a plate is delimited by a lower grid (6) and an upper grid (7) and in that ~~the~~ an end of the

bypass line connected to the adsorbent bed is connected to a distribution means (30) arranged above said upper grid.

Claim 14 (currently amended) A device as claimed in claim 1, ~~characterized in that~~ wherein a plate comprises a plurality of panels forming a radial cutout, the enclosure comprises a central tube and a secondary fluid distribution ring in communication with a distribution plate, and a diverted fluid distribution means, said means being arranged below the distribution ring and said means being connected to the end of the bypass line, said bypass line being connected to a zone of an adsorbent bed.

Claim 15 (currently amended) A device as claimed in claim 14, ~~characterized in that~~ wherein said diverted fluid distribution means comprise at least one diverted fluid distribution ring (53), said ring (53) being arranged in a perforated means (55), said means having a substantially conical shape.

Claim 16 (original) A device as claimed in claim 10, characterized in that said perforated means comprises a wall (55) forming an angle α with the central tube and in that said ring (53) is located at a distance a from said grid.

Claim 17 (original) A device as claimed in claim 1, characterized in that said column comprises a substantially central mast comprising one or more mast elements (80), including at least:

- an upper part (81),
- A distributor-collector part (82) comprising one or more secondary ports (86i) and at least one main port (85), the flow sections of ports (85) and (86i) being different,
- a lower part (83)
- a distributor-collector part(s) (82) are arranged between an upper part (81) and a lower part (83)

- a sealing element (84a) arranged between distributor-collector part (82) and lower part (83),
- a separation element (87) arranged on distributor-collector part (82), thus delimiting two fluid circulation spaces (82a, 82b).

Claim 18 (currently amended) In a process comprising injection of a diverted fluid in a simulated moving bed separation process, comprising at least the following stages:

circulating a main fluid through a plurality of adsorbent beds in an enclosure,
 injecting and extracting secondary fluids comprising feed, desorbent, extract and/or raffinate according to a ~~sequentially in sequential~~ order to achieve separation of the constituents of the feed,
 injecting a diverted fluid,

the improvement wherein at least part of the main fluid is circulated outside the enclosure allowing separation by means of a bypass line comprising at least two ends, one end being connected to a zone of an adsorbent bed distinct from a chamber (Ci) so as to inject and/or to extract part of the main fluid in the zone.

Claim 19 (original) A process as claimed in claim 18, characterized in that a fraction of the main fluid is drawn off from a zone of an adsorbent bed Ai and said fraction is injected into chamber Ci.

Claim 20 (original) A process as claimed in claim 18, characterized in that a fraction of the main fluid is drawn off from a zone of an adsorbent bed Ai and said fraction is injected into chamber Ci.

Claim 21 (currently amended) A process as claimed in claim 18, ~~for separation of~~ wherein paraxylene is separated from aromatic hydrocarbon-containing feeds with eight carbon atoms.

Claim 22 (**currently amended**) A ~~process~~ device according to claim 5, wherein the S_1/S_2 ratio is about 4.

Claim 23 (**original**) A device according to claim 1, wherein all panels comprise a single distribution, mixing and/or extraction chamber (Ci,